

ABSTRACT OF THE DISCLOSURE

A gas turbine exhaust passage is realized which may suppress the radiation of strong ultra low frequency noise to the outside without amplifying the turbulence of an high speed exhaust gas flow rate or a pressure pulsation generated in a gas turbine. At least a portion of a wall of a gas turbine exhaust passage (3, 5) is formed of an acoustically transmissive material (36, 56) for allowing a low frequency noise of several tens of Hz or less to pass therethrough sufficiently. Also, the acoustically transmissive material is made of one or more of a porous material, a porous heat insulating material, a mesh having a large flow resistance, cloth or film material. Further, the acoustically transmissive material is supported by a porous plate or a frame. In a case where an acoustically transmissive material is used only for an exhaust chimney (5), the exhaust chimney (5) is supported by a rack (11). Further, a soundproof panel (12) may be attached to the rack (11). Also, a damper provided at a branch portion between an exhaust gas boiler branched from the gas turbine exhaust passage and the gas turbine exhaust passage is formed of acoustically transmissive material for allowing a low frequency noise of several tens of Hz or less to pass therethrough sufficiently.